

Claims

1. A medicament dispenser device for use in the delivery of a combination medicament product, the device comprising

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a first medicament container for containing a first medicament component;

first release means for releasing the contents of said first medicament container;

10 at least one further medicament container for containing at least one further medicament component;

at least one further release means for releasing the contents of each said at least one further medicament container; and

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mixing means for promoting the mixing of the released contents of the first and at least one further medicament container,

wherein the first medicament component is kept separate from the at least one further medicament component until the point of release thereof for delivery in combination.

2. A medicament dispenser device according to claim 1, wherein said mixing means promotes mixing of said released contents immediately prior to delivery in combination thereof.

3. A medicament dispenser device according to either of claims 1 or 2, wherein the mixing means promotes mixing of the released contents as an integral part of the release and delivery in combination thereof.

4. A medicament dispenser device according to any of claims 1 to 3, wherein the mixing means promotes of the released contents by making use of the energy inherent in the release and delivery in combination thereof.

5 5. A medicament dispenser device according to any of claims 1 to 4, wherein the mixing means promotes mixing of the released contents by making use of energy input by the patient.

6. A medicament dispenser device according to any of claims 1 to 5, wherein the 10 mixing means provides for turbulent mixing of the released contents.

7. A medicament dispenser device according to any of claims 1 to 6, wherein the mixing means comprises one or more mechanical mixing promoters comprising mechanical features arranged to promote mixing.

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8. A medicament dispenser device according to claim 7, wherein said one or more mechanical mixing promoters comprise mechanical features selected from the group consisting of baffles, propellers, paddles, vanes and venturi.

20 9. A medicament dispenser device according to any of claims 1 to 8, wherein the mixing means comprises a mixing chamber including an inlet for receiving released medicament contents from each medicament container and a common outlet for delivery of combination medicament product to the patient for delivery.

25 10. A medicament dispenser according to claim 9, wherein the inner surface of the mixing chamber is shaped to promote mixing.

11. A medicament dispenser according to claim 10, wherein the inner surface of the mixing chamber is provided with one or more indentations or protrusions.

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12. A medicament dispenser device according to any of claims 1 to 11, wherein the mixing means is provided with energisation means for energising the mixing of the released contents.

5 13. A medicament dispenser device according to any of claims 9 to 12, in the form of an inhalation device wherein, the mixing chamber is arranged to harness the energy provided by a patient's inward breath to promote mixing of the released contents.

10 14. A medicament dispenser device according to claim 13, wherein the mixing chamber provides for venturi channelling of said patient's inward breath.

15. A medicament dispenser device according to any of claims 1 to 14, wherein the device comprises the first medicament container and only one further 15 medicament container.

16. A medicament dispenser device according to any of claims 1 to 15, wherein the device includes at least one actuation indicator associated with the first medicament container the at least one further medicament container.

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17. A medicament dispenser device according to any of claims 1 to 16, wherein the device includes a timing control for controlling the relative time of release of contents from the first and at least one further medicament container.

25 18. A medicament dispenser device according to claim 17, wherein the first medicament container contains said first medicament and the at least one further medicament container contains said at least one further medicament.

19. A medicament dispenser device according to claim 18, wherein the first 30 medicament comprises a bronchodilator and the at least one further medicament comprises an anti-inflammatory.

20. A medicament dispenser device according to claim 19, wherein said bronchodilator is a beta-agonist and said anti-inflammatory is a steroid.

5 21. A medicament dispenser device according to claim 20, wherein said bronchodilator is selected from the group consisting of salbutamol, salmeterol, formoterol and any salts or solvates thereof and mixtures thereof.

22. A medicament dispenser device according to either of claims 20 or 21,
10 wherein said anti-inflammatory is selected from the group consisting of a beclomethasone ester, fluticasone ester, budesonide and any salt or solvates thereof and mixtures thereof.

23. Use of a medicament dispenser device according to any of claims 1 to 22 for
15 dispensing a combination medicament product.